Supplemental Material for:

Premature Myocardial Infarction in the Middle East and North Africa: Rationale for the Gulf PREVENT Study

Supplemental Table 1: Countries within the Middle East and North Africa Region (MENA; categorized by the World Bank) and Eastern Mediterranean Region (EMR; categorized by the World Health Organization)
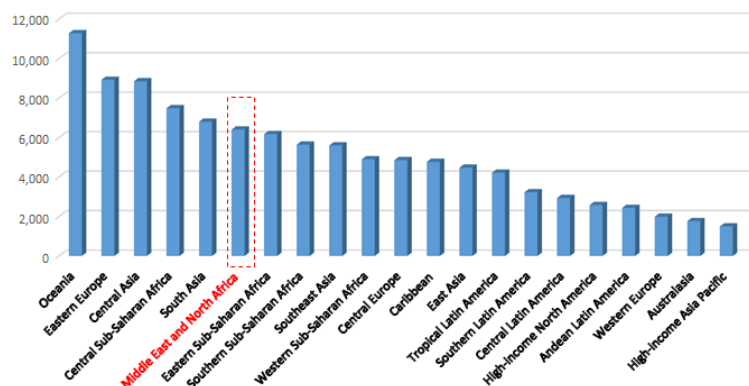
World Bank MENA[1] (n = 21)	Global Burden of Disease Study MENA[2] (n = 21)	Global Burden of Disease Study MENA[3] (n = 19)	World Health Organization EMR[4] (n = 22)
Low Income			
——	Afghanistan	——	Afghanistan
——	——	——	Somalia
Middle Income			
Algeria	Algeria	Algeria	——
Djibouti	——	——	Djibouti
Arab Republic of Egypt	Arab Republic of Egypt	Arab Republic of Egypt	Arab Republic of Egypt
Islamic Republic of Iran	Islamic Republic of Iran	Islamic Republic of Iran	Islamic Republic of Iran
Iraq	Iraq	Iraq	Iraq
Jordan	Jordan	Jordan	Jordan
Lebanon	Lebanon	Lebanon	Lebanon
Libya	Libya	Libya	Libya
Morocco	Morocco	Morocco	Morocco
——	——	——	Pakistan
——	Sudan	——	Sudan
Syrian Arab Republic	Syria	Syrian Arab Republic	Syria
Tunisia	Tunisia	Tunisia	Tunisia
——	Turkey	Turkey	——
Palestine	Palestine	Palestine	Palestine
Republic of Yemen	Republic of Yemen	Republic of Yemen	Republic of Yemen
High Income			
Bahrain	Bahrain	Bahrain	Bahrain
Israel	——	——	——
Kuwait	Kuwait	Kuwait	Kuwait

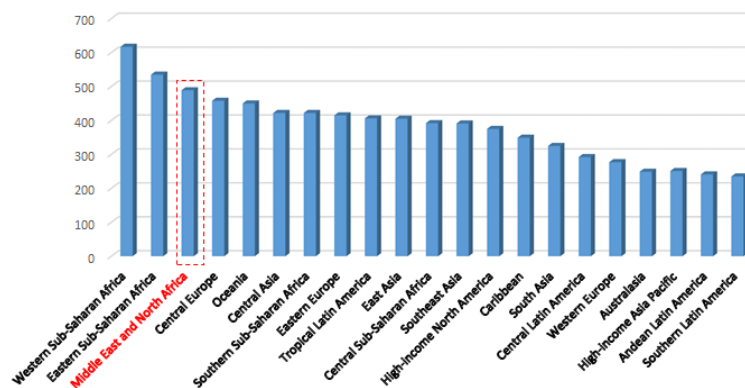| Malta | —— | —— | —— |
Oman	Oman	Oman	Oman
Qatar	Qatar	Qatar	Qatar
Kingdom of Saudi Arabia	Kingdom of Saudi Arabia	Kingdom of Saudi Arabia	Kingdom of Saudi Arabia
United Arab Emirates	United Arab Emirates	United Arab Emirates	United Arab Emirates

Income groups (low, middle, and high) based on World Bank classification[1]. The 2017 World Bank MENA classification included Comoros and Sudan (both, low-income), Mauritania and Sudan (both, middle-income) but did not include Islamic Republican of Iran (middle-income), Israel and Malta (both, high-income).

Supplemental Table 2: Key data elements to be obtained and or measured in Gulf PREVENT
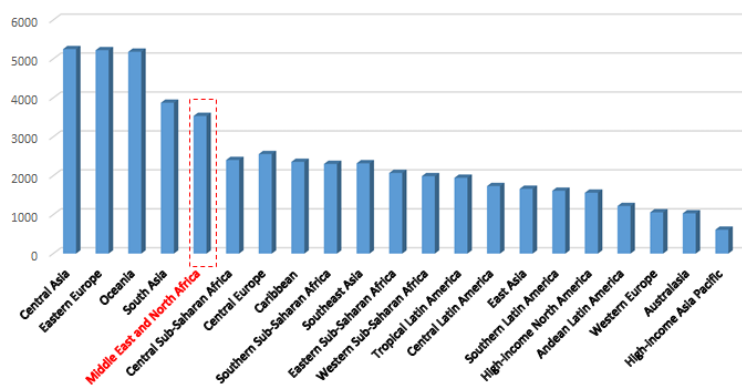
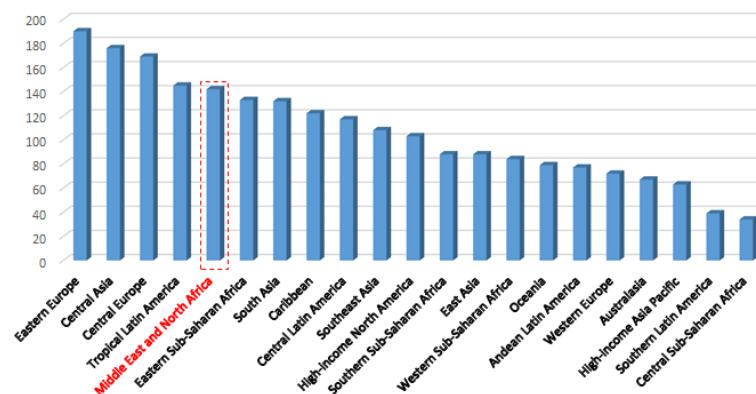| Demographics	Age; nationality; marital status; education; employment
Previous history	Medical conditions; tobacco use; medications; family history
Hospital presentation and outcomes	Clinical presentation; diagnostics (including laboratory, cardiac imaging); therapies and interventions; hospital outcomes
Secondary cardiovascular prevention	Discharge medications; counselling on secondary prevention strategies; adherence to secondary prevention strategies; hospitalizations and cardiovascular events within 3-months post-MI
Laboratory parameters	Basic metabolic panel; complete blood count; cardiac biomarkers; lipid biomarkers

Supplemental Figure 1A: Age-standardized years of life lost (per 100,000) in 2015 attributed to cardiovascular disease. Data from Roth and colleagues.[5]
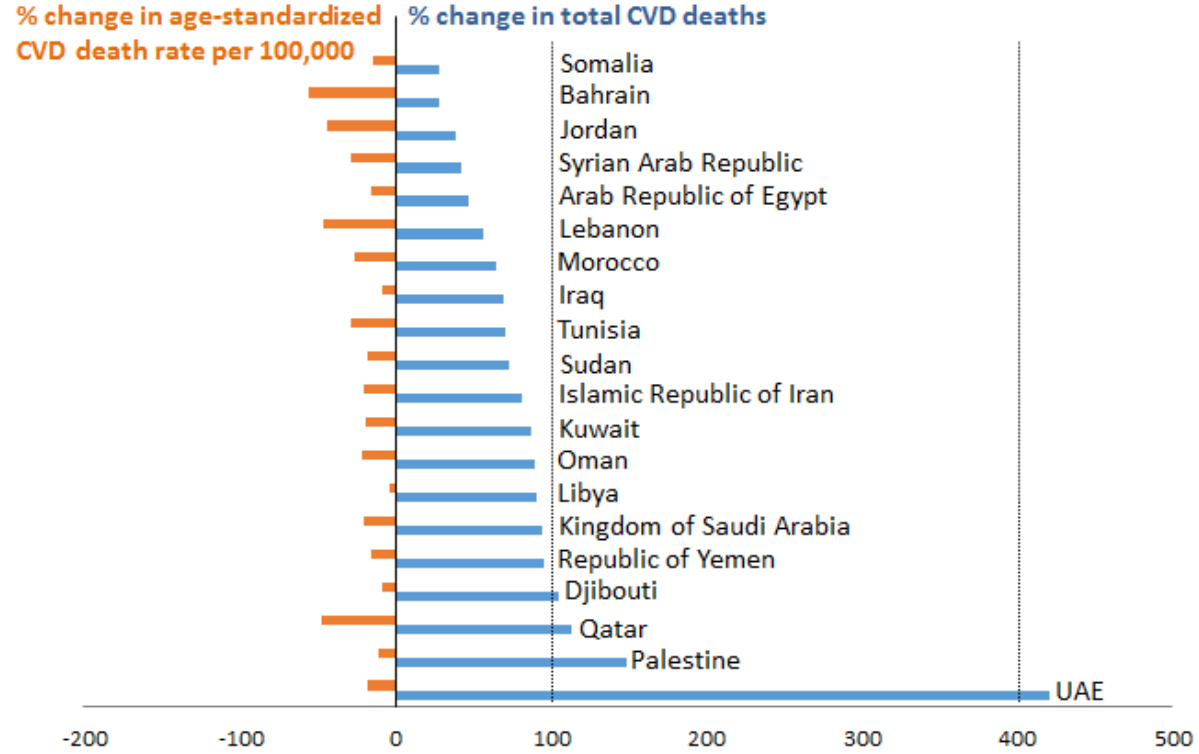

Supplemental Figure 1B: Age-standardized years lived with disability (per 100,000) in 2015 attributed to cardiovascular disease. Data from Roth and colleagues.[5]

Supplemental Figure 1C: Age-standardized years of life lost (per 100,000) in 2015 attributed to ischemic heart disease. Data from Roth and colleagues.[5]

Supplemental Figure 1D: Age-standardized years lived with disability (per 100,000) in 2015 attributed to ischemic heart disease. Data from Roth and colleagues.[5]

Supplemental Figure 2: Percentage change (2015 *vs.*1990) in age-standardized CVD death rate per 100,000 (orange bars) and in total CVD death (blue bars). Data from Mokdad and colleagues.[4]
CVD: Cardiovascular disease; UAE: United Arab Emirates

References

1. World Bank Group. World Bank country and lending groups. https://data.worldbank.org/region/middle-east-and-north-africa?view=chart. Published 2018. Accessed April 26, 2018.

2. GBD 2015 Mortality and Causes of Death Collaborators. Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980-2015: a systematic analysis for the Global Burden of Disease Study 2015. *Lancet (London, England)*. 2016;388(10053):1459-1544. doi:10.1016/S0140-6736(16)31012-1.

3. Moran AE, Forouzanfar MH, Roth GA, et al. Temporal trends in ischemic heart disease mortality in 21 world regions, 1980 to 2010: The Global Burden of Disease 2010 Study. *Circulation*. 2014;129(14):1483-1492. doi:10.1161/CIRCULATIONAHA.113.004042.

4. Mokdad AH, Mokdad AH. Burden of cardiovascular diseases in the Eastern Mediterranean Region, 1990–2015: findings from the Global Burden of Disease 2015 study. *Int J Public Health*. 2018;63(Suppl 1):137-149. doi:10.1007/s00038-017-1012-3.

5. Roth GA, Johnson C, Abajobir A, et al. Global, regional, and national burden of cardiovascular diseases for 10 causes, 1990 to 2015. *J Am Coll Cardiol*. 2017;70(1):1-25. doi:10.1016/j.jacc.2017.04.052.